

ABSTRACT OF THE DISCLOSURE

A method, corresponding apparatus, and corresponding system for acquiring a received spread spectrum signal, the received signal having a carrier component at a carrier frequency, a code component having a code period, and a data component, the acquiring including matching the phase of a replica of the code component to the phase of the received code component and also determining any shift in the carrier frequency away from a transmitted carrier frequency, the method including the steps of: performing a first acquisition of the received signal so as to provide an approximately estimated carrier frequency and a phase of the replica and also so as to provide a code-wiped and an approximately carrier-wiped signal; and performing a second acquisition of the approximately carrier-wiped signal, the second acquisition including a substep of data wipe-off involving a squaring or similar operation on a signal derived from the approximately carrier-wiped signal; thereby providing a correction to the approximately estimated carrier frequency, a correction that accounts for the carrier frequency shift remaining after the first acquisition. The invention also comprehends a method including only a single acquisition, an acquisition including a data wipe-off involving a squaring or similar operation on a signal having a data component and a frequency component, i.e. the invention is of use in acquiring any kind of signal having a carrier component and a data component, regardless of whether a first, typically relatively coarse acquisition is performed.